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The Programmatic Bias in the Discussion on Social Mechanisms in Sociology

Andrés Cardona

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DFG Research Center (SFB) “From Heterogeneities to Inequalities”

Whether fat or thin, male or female, young or old – people are different. Alongside their physical features, they also differ in terms of nationality and ethnicity; in their cultural preferences, lifestyles, attitudes, orientations, and philosophies; in their competencies, qualifications, and traits; and in their professions. But how do such heterogeneities lead to social inequalities? What are the social mechanisms that underlie this process? These are the questions pursued by the DFG Research Center (Sonderforschungsbereich (SFB)) “From Heterogeneities to Inequalities” at Bielefeld University, which was approved by the German Research Foundation (DFG) as “SFB 882” on May 25, 2011.

In the social sciences, research on inequality is dispersed across different research fields such as education, the labor market, equality, migration, health, or gender. One goal of the SFB is to integrate these fields, searching for common mechanisms in the emergence of inequality that can be compiled into a typology. More than fifty senior and junior researchers and the Bielefeld University Library are involved in the SFB. Along with sociologists, it brings together scholars from the Bielefeld University faculties of Business Administration and Economics, Educational Science, Health Science, and Law, as well as from the German Institute for Economic Research (DIW) in Berlin and the University of Erlangen-Nuremberg. In addition to carrying out research, the SFB is concerned to nurture new academic talent, and therefore provides doctoral training in its own integrated Research Training Group. A data infrastructure project has also been launched to archive, prepare, and disseminate the data gathered.

Research Project A1 “Social Closure and Hierarchization: Contextual Conditions of Unequal Developmental Opportunities in Early Phases of Life”

This project extends research on the genesis and effects of individual heterogeneity to cover psychological characteristics and their interplay with socioeconomic characteristics. It looks at cognitive and non-cognitive competencies on the one hand, and various dimensions of cultural and social capital on the other, asking how far these overlap, how far each determines the genesis of the other, and how far each impacts upon academic success and a successful life. Do they contribute particularly strongly to the early and largely irreversible reduction of opportunities, to the accumulation of advantage and disadvantage? For the first time, two established but previously unconnected research traditions are being integrated into one research design. Although this means a certain degree of competition between them, it simultaneously creates the possibility of integrating the two bodies of existing knowledge.

The studies are conducted not only on the level of the individual life course, but also taking into consideration the contextual conditions of different family constellations, social networks and neighborhoods, and educational organizations and institutions. All these contextual levels may harbor social exclusion mechanisms. The particular significance of the family of origin for the genesis of social inequalities is taken into account by considering both the stratification features of families of origin and the increasing diversity of family structures, with the resulting hierarchization of family positions and roles. In addition, the project goes beyond differences between families to study differences in the significance of one and the same family for its various members – particularly for siblings in terms of gender, age difference, and birth order.
The project focuses on the early phases of life. Empirically, it will pay special attention to developing and implementing innovative operationalizations of life-course cohort analyses, based on the German Socio-Economic Panel Study (SOEP) and comparable panel studies in other countries, primarily the Child Development Supplement of the Panel Study of Income Dynamics (PSID).

The Author

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The Programmatic Bias in the Discussion on Social Mechanisms in Sociology[†]

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Abstract

Over the last two decades, the concepts of 'social mechanism' and 'mechanistic explanation' have increasingly found their way into both theoretical and empirical work in sociology. This paper contributes to the already extensive literature on the subject by offering, from a sociologist's perspective, a critical appraisal of the direction the debate has taken. It is argued that in developing a mechanistic agenda in sociology, the basic tenets of a mechanistic approach—generative causality and a commitment to causal explanation that effectively deepen our understanding of phenomena—have been displaced by individual programmatic priorities serving particular theoretical and methodological preferences. To raise awareness of this tendency and bring needed clarity to the debate on social mechanisms, a plea is made to distinguish programmatic conveniences from general claims on causation and causal explanation. Only then will a philosophically informed, broad-based, and inclusive dialog on the necessity and potential advantages of a mechanistic approach enriched by contributions from all corners of the discipline become possible.

Keywords

Social mechanisms, mechanistic explanations, causation, causal explanation, analytical sociology

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Introduction

The last two decades have witnessed an almost explosive growth in scientific and philosophical publications on mechanisms and mechanistic explanations.[1] Debates on how mechanisms should be defined, identified, modeled, and tested have become almost ubiquitous both in the life sciences (Bechtel, 2006; Bechtel and Abrahamsen, 2005; Craver, 2007; Machamer, 2004; Machamer et al., 2000; Schaffner, 1993; Thagard, 1999) and the social sciences (Collier and Mazzuca, 2008; Hedström and Swedberg, 1998a; Johnson, 2006; Lawson, 1997, 2003).

In a nutshell, statements about mechanisms and mechanistic explanations in science can be said to address two main issues that are related to causation and causal explanation, respectively. First, the emphasis placed by advocates of a mechanistic perspective on exploring the connection between cause and effect, the 'mechanism', suggests a particular notion of causation that goes beyond Hume in regarding causes as generative processes that actively produce effects (Harré, 1972: 115–118; Machamer, 2004: 34; Machamer et al., 2000: 21–22; in sociology, see Goldthorpe, 2001).[2] Second, and as a critical reflection on the covering-law model of Hempel and Oppenheim (1948), 'mechanistic' explanations are nothing more than a plea to enlarge the focus of causal explanation beyond the logical formalities of a deductive-nomological framework through an explicit commitment to effectively furthering our understanding of phenomena. To do so, causal explanation should not be limited to the mere subsumption of phenomena under law-like generalizations, but should *also* strive to reconstruct how causes bring about effects (Bunge, 1997, 2004).

The goal of the following discussion is not to defend the need or potential benefits of a mechanistic perspective in sociology, nor is it to judge the pertinence of these admittedly philosophical issues to the theory of causation and causal explanation. Rather, the main purpose of this paper is to raise awareness among sociologists of how the concept of mechanisms in the sociological discussion has silently drifted towards particular programmatic preferences in both theory and method. By drawing attention to this programmatic displacement of the mechanistic agenda in sociology, this paper seeks to minimize two threats to which sociologists who have followed the recent literature on the subject are exposed. These bear a close resemblance to the ones faced by statisticians struggling to judge the truth of a hypothesis: extreme gullibility and extreme skepticism.

The first of these, extreme gullibility, can also be described as the uncritical acceptance of claims that are not necessarily true. Without an awareness of the very particular focus chosen by champions of social mechanisms, blind followers of their promises might find themselves defending questionable assertions about the nature of social phenomena and the way we make sense of them. Similarly, recognizing the programmatic character of the debate can temper extreme skepticism or the rejection of claims that might ultimately prove to be true. Confusing particular uses of the mechanism concept in sociology with the tenets of a mechanistic approach to science has led some to ignore the potentially enriching debate on causation and understanding through causal explanation that the idea of mechanism pretends to stimulate.

Just as there are many unsuspecting followers of the debate on mechanisms in sociology who have been too quick in adopting a mechanistic language without a healthy dose of distance and skepticism, there are those who have been equally quick in giving up on understanding the

substance of the discussion. For both the gullible and the skeptical, this article is an invitation to reconsider the idea of mechanisms and mechanistic explanations in sociology by filtering out programmatic biases and focusing on its core message about causation and understanding through causal explanation. Only then will it be possible to conduct a fair discussion on whether a mechanistic agenda in sociology is desirable and viable.

The paper is divided into five sections. The first section briefly presents the case for social mechanisms and mechanistic explanations in sociology as argued by John Elster and Peter Hedström, two of its main proponents. The second and third sections illustrate how programmatic biases have exerted a decisive influence in framing the debate on social mechanisms, diverting attention from the core issues of causality and causal explanation to focus instead on well-known intradisciplinary disputes on theory and method. While section two concentrates on matters surrounding the definition of social mechanisms, section three turns to claims about the generality of mechanistic explanations and the relationship of mechanisms to laws. Taking a step back from the critical view of programmatic biases presented in sections two and three, the fourth section offers a short reflection on the inevitability of differences in theory and method when pursuing a mechanistic agenda in sociology. The last section concludes, making a plea for understanding the mechanistic perspective in sociology beyond particular methodological or theoretical preferences.

Setting the Stage: A Brief Reconstruction of the Mechanistic Agenda in Sociology

Although the word ‘mechanism’ has been a part of the discipline of sociology for years (Karlsson, 1958; Merton, (1949)1967), the concept has experienced a remarkable revival since

the publication of Peter Hedström and Richard Swedberg's collection of essays on analytical sociology in 1998.[3] As a result of this increasing attention on the concept of mechanisms in sociology, a growing body of literature has emerged addressing the necessity, utility, and viability of social mechanisms and mechanistic explanations in the discipline (for review articles, see Cherkaoui, 2005; Gerring, 2007; Gross, 2009; Hedström and Ylikoski, 2010; Mahoney, 2001; Mayntz, 2004).

Even if opinions on a mechanistic agenda in sociology have been heard from all corners of the discipline (Brante, 2008), the concept has been actively championed by just a handful of scholars.[4] In particular, the works of Jon Elster and Peter Hedström are widely regarded as the most central and influential (Abbott, 2007; Bunge, 2004; Mahoney, 2001; Norkus, 2005). Despite the many small modifications to their ideas in recent years, their core argument for the idea of social mechanisms has remained relatively stable.[5] The mechanism agenda in sociology, as understood by Elster and Hedström, has been offered as a solution to three sets of problems: (i) the limited understanding provided by a strict adherence to explanations that follow the D-N or covering-law model; (ii) the risks of using correlational analysis as the preferred tool for causal inference, in particular the dangers of spurious correlations and endogeneity; (iii) sociological theorizing based on statistical analysis or variable-based sociology on the one hand, as well as the search for grand theories or closed theoretical systems on the other. As a solution to each of these challenges, social mechanisms and mechanism-based explanations should (i) provide 'deeper' causal explanations that further our understanding of social phenomena by reconstructing how causes bring about effects (Elster, 1990: 6, 1999: 10; Hedström and Swedberg, 1996: 287); (ii) guide and strengthen causal inference by reducing the problems of

spurious correlation and endogeneity (Elster, 2007: Ch. 1, 2; Hedström, 1998b: 15-17; Hedström, 2008); [6] (iii) produce theories of middle scope of generality that favor multidisciplinarity and mitigate theoretical fragmentation within sociology (Hedström, 2005: 1, 28; Hedström and Swedberg, 1998b: 1, 6; Hedström and Udehn, 2009). [7]

Efforts to deepen our understanding of social phenomena and improve causal inference and theory in sociology are certainly welcome. It is, therefore, unsurprising that the improvements in social science promised by champions of social mechanisms have found fertile ground in the minds of many sociologists. To mention only a few selected examples, fields as disparate as the study of political processes (Tilly, 2000, 2001), crime (Wikström and Sampson 2003), and globalization (Pickel 2006) have already adopted a mechanistic language. Yet, despite this positive resonance in many corners of the discipline, most of the discussion on the subject has gravitated towards narrow programmatic issues not related to the broader scope of the mechanistic argument. Thus, instead of deliberating on the pertinence or potential benefits of a deeper view on causation and causal explanation to guide sociological inquiry, the discussion has been pushed, perhaps inadvertently, into the intradisciplinary arena of programmatic struggles where particular methodological and theoretical issues have displaced more general discussion on mechanisms. This programmatic bias will be illustrated in the next two sections by taking a closer look at the definition of social mechanisms and the relationship between mechanistic explanations and laws.

Individual Agendas and the Definition of Social Mechanisms

Anyone familiar with the discussion on social mechanisms would readily agree that two of its most salient features are the widespread confusion in defining the concept and the lack of rigor in employing it. Paradoxically, much of the debate on the potential advantages of a mechanistic approach in sociology has been conducted without having arrived at some minimal consensus as to what a social mechanism is. In the following, not only the extent of this conceptual confusion will be illustrated, but most importantly, it will be argued that the definitional chaos can be largely explained by calling attention to the individual preferences in theory and method of some of its more vocal advocates.

The Magnitude of the Confusion

In philosophy, perhaps the simplest formulation of what constitutes a mechanism was provided by Harré. For him, a 'mechanism' is '…any kind of connection through which causes are effective' (Harré, 1972: 118). Yet, despite the apparent simplicity of this definition, the efforts collectively invested so far in giving the general intuition about the nature of mechanisms sociological substance have been rather modest if not outright confusing.

To grasp the magnitude of the confusion, one has only to read Tilly's attempted definition of social mechanisms, which includes among other elements the 'transfer of energy among stipulated social entities' (Tilly, 2004: 217); an obscure allusion to physical rather than social forces. As Mayntz (2004) remarks, '...a survey of the relevant empirical and methodological literature soon bogs down in a mire of loose talk and semantic confusion about what "mechanisms" are' (p. 239). To which, some years later, Brante (2008) adds, 'There are already

embarrassingly large amounts of definitions, some of which even contradict one another' (p. 276). A year before, and after reviewing the literature on social mechanisms, Gerring (2007) had already suggested the possibility that '...since "mechanism" means so many different things – often quite contradictory to one another – it means nothing at all' (p. 178).

By the same token, and consonant with the diversity of definitions, there is already a remarkably long list of additional characteristics associated with social mechanisms. As reviewed by Gerring (2007), Gross (2009), and Mahoney (2001), mechanisms have been ascribed the most disparate attributes: they have been depicted, among other things, as both observable and unobservable, deterministic and probabilistic, macro and micro, hierarchical and non-hierarchical, reducible and non-reducible to lower levels of abstraction, action-based and non-action-based, and as referring to concrete phenomena in bounded contexts and representing universal phenomena cutting across contexts.

This precarious situation in defining social mechanisms is hardly improved by the fact that central advocates of the mechanistic approach have changed their definitions of mechanisms more than once (**Table 1)**.

Table 1. Elster's and Hedström's Definitions of Social Mechanisms**.**

Jon Elster	**Peter Hedström**
'...intentional chains from a goal to an action as well as causal chains from an event to its effect' (Elster, 1983: 24).	'...an integral part of an explanation which (1) adheres to the three core principles stated above [direct causality, limited scope and methodological individualism], and (2) is such that on the occurrence of the cause or input, I, it generates the effect or outcome, O' (Hedström and Swedberg, 1996: 299).

Jon Elster	Peter Hedström
'...nuts and bolts, cogs and wheels – that can be used to explain quite complex phenomena' (Elster, 1990: 3).	'...an integral part of an explanation which (1) adheres to the four core principles stated previously [action, precision, abstraction and reduction], and (2) is such that on the occurrence of the cause or input, I, it generates the effect or outcome, O' (Hedström and Swedberg, 1998b: 25).
'...frequently occurring and easily recognizable causal patterns that are triggered under generally unknown conditions or with indeterminate consequences' (Elster, 1998: 45); Also Elster (1999: 1); Elster (2007: 36).	'a constellation of entities and activities that are linked to one another in such a way that they regularly bring about a particular type of outcome' (Hedström, 2005: 11; Hedström and Bearman, 2009b: 4-8 ; Hedström and Ylikoski, 2010: 51).

Aggravating this conceptual inflation, the diversity of views on social mechanisms and their properties have been accompanied by an unfortunate lack of care in the use of the concept. To mention just one example, in his categorization of the social mechanisms underlying inequality, Therborn (2006) defines mechanisms as 'a kind of social *interaction* that yields a certain distributive outcome' (p. 11; italics added). In the immediately following lines he describes the first of these mechanisms, 'distantiation', as a process that operates *independent* of interaction (pp. 11–12). The idea that interaction was the constitutive feature of social mechanisms seems to have faded away from one page to the next.

A second, more subtle lack of rigor in employing the concept of social mechanism can be observed in other publications that try to identify or formulate concrete instances of mechanisms. As an example, when Tilly (2004) presented his bundle of nine mechanisms 'causing boundary change' and 'constituting boundary change', and although he openly recognized their preliminary character (p. 216), the terminology was readily adopted and expanded in Pickel (2006). There the author used it to define a new set of mechanisms 'causing

property transformation' and 'constituting property transformation' (p. 37), which he then applied to explain post-communist transformation and globalization.

In fact, and contrary to the impression given by the many authors trying to give the concept a stable definition, divested of any additional assumptions, the idea of 'social mechanism' is rather uncontroversial. Abstracting from the myriad of definitions of social mechanisms found in the literature and the numerous survey articles summarizing those definitions, it is possible to arrive at a simple formulation that includes only those elements that seem to be widely accepted as capturing the essence of the concept. Accordingly, social mechanisms can be described as regularly occurring phenomena that, given a set of initial conditions, display some robustness in producing certain outcomes (for a similar formulation, see Mayntz, 2004: 241–245). Aside from the notion of generative causality implied by this formulation, agreeing upon the existence of robust and regularly occurring phenomena connected to certain initial conditions should not pose any real difficulty or be a serious point of contention in the discipline.

How Programmatic Considerations Influence the Definition of Mechanisms: An Example

While conceptual diversity in itself is not necessarily undesirable or inevitably noxious, the semantic confusion permeating the debate on social mechanisms is symptomatic of a deeper anomaly: the programmatic bias. Anyone examining recently published work on the subject in sociology will gain the impression that much of what has been written on social mechanisms has been moved by two different forces: one that promotes the introduction of the concept and a second that pursues a particular theoretical or methodological agenda. Confusion arises

especially at the interception of the two forces, that is, when efforts at defining mechanisms are conflated with other personal methodological and theoretical affinities. This is especially confusing when those personal preferences are interpreted as the 'true' mechanistic agenda. This programmatic character of contemporary views on social mechanisms, I argue, is largely responsible for the diversity of definitions and has created difficulties in disentangling the core intuition underlying a mechanistic approach from other related assumptions regarding well-known issues such as theories of action (rational choice vs. other alternatives) or social ontologies and methodologies (individualism vs. holism; quantitative vs. qualitative).

To illustrate further the programmatic displacement of the discussion on social mechanisms and the confusion it engenders, a cursory look at the works of Hedström and his collaborators is instructive. Looking back at **Table 1**, a peculiar twist in Hedström's definition of social mechanism catches the eye. While in his first two publications on the subject (Hedström and Swedberg, 1996, 1998b), social mechanisms are described as a mediator between cause and effect, in later publications he defines social mechanisms as constellations of 'entities' and 'activities' producing a certain outcome on a regular basis (Hedström, 2005: Ch. 1; Hedström and Bearman, 2009b; Hedström and Ylikoski, 2010). Confronted with this changing definition, two questions naturally arise. First, why did the definition change? And second, what are these new categories, 'entities' and 'activities', supposed to mean? Answering these two questions reveals how individual decisions about particular social ontologies end up defining which direction the discussion on social mechanisms takes.

To answer the first question, attention should be drawn to a particularity of the definition of social mechanisms found in Hedström's first two publications on mechanisms (Hedström and

Swedberg, 1996, 1998b). There, he includes in the definition the conditions that any explanation should meet to be called mechanistic. These conditions are methodological individualism, middle-range theorizing, and direct causality (Hedström and Swedberg, 1996: 298–299) or action, precision, abstraction, and reduction (Hedström and Swedberg, 1998b: 24–25). While it is widely recognized that the notion of mechanism implies some sort of generative or direct causality (Harré, 1972: 115–118; Machamer, 2004: 34; Machamer et al., 2000: 21–22), the other elements of the definition are Hedström's own choices regarding theory. When Hedström openly introduced his agenda for analytical sociology in 2005 it became clear that his initial definition of mechanisms was nothing different than his core tenets of analytical sociology (Hedström, 2005: Ch. 1; Hedström and Bearman, 2009b; Hedström and Ylikoski, 2010), which faced him with the challenge of providing a separate, revamped formulation of his concept of social mechanisms independently of his new research agenda.

To cope with this conceptual loss, he turned to the life sciences, and in particular to the work of Machamer et al. (2000). According to their work, which explicitly addresses the fields of neurobiology and molecular biology, mechanisms are to be understood as '…entities and activities organized such that they are productive of regular changes from start or set-up to finish or termination conditions' (Machamer et al., 2000: 3). From this definition and following his predilection for methodological individualism, which is, to be sure, perfectly legitimate, Hedström transformed 'entity' and 'activity' into individuals and actions.[8] Accordingly, social mechanisms are nothing more than the constellation of individuals and actions regularly producing an outcome (Hedström, 2005: 25–26).

It is certainly no heresy to change the definition of a concept. Nor is it a weakness to invest time and energy in developing a new agenda of analytical sociology, an effort that should indeed be applauded. The goal here is not to blame Hedström for having a particular view on sociology or to disregard his efforts to make his view on sociology compatible with a mechanistic agenda. Rather, the point to be highlighted is how the definition of mechanisms drifted away from a general discussion on causality and causal explanations and was driven instead by the exigencies of a new research agenda. In short, what started as an intuitive definition of mechanisms as the connection between cause and effect ended up, due to the necessities of the enterprise of analytical sociology, becoming a familiar formula for methodological individualism.

Certainly, Hedström is not the first to raise such claims about mechanisms or methodological individualism, nor is he the only scholar to have tailored the concept to a specific methodological position. As an example, Elster similarly equates mechanisms in sociology with methodological individualism (Elster, 2007: 13), while Mayntz (2004: 246ff.) makes a plea for macro-level mechanisms (for a similar argument, see Ylikoski, 2011: 167–168). Still others argue for something in the middle: 'nonreductive individualism' (Sawyer, 2004: 266–267). Similarly, among those making a case for individual action as the core of a mechanistic approach, there are clear lines of disagreement about the appropriate theory of action. Many of the authors contributing to the collection of essays edited by Hedström and Swedberg (1998) condition the viability of the mechanism approach in sociology on rational choice theory (e.g. Boudon, 1998: 172–173). Not surprisingly, others have made similarly strong cases, in combination with social mechanisms, for alternative theories of action. For instance, while

Hedström (2005: Ch. 3) favors the Desire-Belief-Opportunity (DBO) theory, Gross (2009: 366–369) has made a plea for a pragmatist theory. Still others, like Abbott (2007), have argued in favor of going beyond agents and motives, focusing instead on relations and processes.[9]

The Confusing Opposition of Mechanisms and Mechanistic Explanations to Laws

Parallel to the efforts to define social mechanisms, attempts at spelling out their additional properties and characterizing mechanistic explanations have been equally permeated by programmatically biased assertions.[10] As has been reiterated by advocates of mechanisms in science, the basic claim about mechanistic explanations is their 'transparency' or commitment to reconstruct causal relationships in a way that effectively improves our understanding of phenomena (Bunge, 1997: 427–428, 455; Bunge, 2004: 207). Some sociologists have gone further than this, arguing that not only the commitment to understanding but also the level of generality distinguishes mechanistic explanations from other types of explanations. This is particularly true for the agenda of analytical sociology and its urgency to oppose mechanistic explanations to grand theories. Although this insistence on the difficulty to generalize mechanism-based explanations is a valid rhetoric weapon to argue in favor of middle-range theories (see for example Hedström and Udehn, 2009), it has led, as a byproduct, to the widespread belief that statements about mechanisms are fundamentally incompatible with law-like generalizations as those found in the D-N model of explanation or even with lawfulness.[11]

In the following, it will be briefly argued that none of these claims are necessarily true. They are merely particular positions taken by scholars defending their own theoretical positions and should therefore not be confused with general claims about mechanisms or mechanistic

explanations. In fact, not only are mechanistic explanations generalizable and akin to deductive arguments; the phenomena they describe, the 'mechanisms', necessarily assume the existence of general principles that explain their regular functioning.

Mechanistic Explanations and Generalizations

As already mentioned, the formulation of explanations by subsuming phenomena under laws has been criticized by advocates of a mechanistic perspective for a lack of commitment to furthering our understanding. The opposition of mechanistic explanations to the covering-law model is, then, first and foremost a question of understanding through causal explanation and not a claim about the generality of the premises in an explanation or the formal structure of the argument. Despite the clear emphasis on the *quality*, not the form, of explanations when arguing in favor of a mechanistic approach, some prominent scholars favoring mechanisms in sociology have suggested that the opposite of mechanistic explanations are laws (Elster, 1999: 5).[12] Such assertions not only indicate an unjustified conflation of the covering-law model as a formal logical framework with one of its elements, law-like generalizations, but also, it fails to recognize that mechanistic explanations are compatible both with general prepositions and deductive-nomological arguments.

To oppose mechanistic explanations to generalizations of wide scope is not an epistemological necessity. There is no reason to think that the level of generality of the premises invoked in *any* scientific explanatory argument should be fixed *a priori* at a given level simply because the explanation, as a whole, explicitly attempts to reconstruct the causal relationships underlying an outcome. The question about the generality of explanations, 'mechanistic' or

otherwise, should always be a matter of empirical and theoretical adequacy to be decided according to best practices of scientific research in a given discipline and not by the arbitrariness of a definition of what 'mechanistic' is supposed to mean.

It is in this context of the generality of mechanistic explanations that Bunge (1997: 442) emphatically stresses that the search for laws should not be replaced by a search for mechanisms, but instead, that law statements incorporating mechanisms should be given preference. He insists that the opposite of a mechanistic explanation is an explanation with limited value to improve our understanding, not lawfulness (Bunge 2004: 198–202). This in turn implies that mechanism-based explanations might in fact be formulated to resemble the D-N model, subsuming a particular event under a general law-like generalization, in this case under law-like statements constitutive of a mechanism (Demeulenaere, 2011: 189-193; Glennan, 2002, 348–349; Opp, 2007: 117–118).

Mechanisms and Lawfulness

Aside from the compatibility of mechanistic explanations with law-like propositions and the D-N model of explanation, the idea of mechanisms as regularly recurring phenomena necessarily implies the existence of certain deeper principles that underpin their recurrent and robust occurrence. In the natural and life sciences, philosophers have appealed to different ontological categories to explain the regularities displayed by mechanisms.[13] To mention a few, Machamer et al. (2000) call them 'entities' and 'activities', Glennan (1996, 2002) 'fundamental laws of physics', and Woodward (2002) regularities invariant under interventions.[14] In any case, and despite differences in the characterization of the internal workings of mechanisms, there

appears to be consensus among the many philosophers writing on the subject about the intuition that, in order to function, mechanisms depend on some deeper regularity that cannot be recursively reduced to ever deeper mechanisms (Glennan, 2010: 367–368). In Bunge's words, 'mechanisms without conceivable laws are called miracles' (Bunge, 2004: 196–197).

Those who, despite the insistence of philosophers to the contrary, still see in social mechanisms a type of social phenomenon *sui generis* that can only be described in connection to more or less restrictive *ceteris paribus* clauses fail to recognize a fundamental distinction. As Gorski (2009: 182) reminds them, mechanisms differ from law-like phenomena not in their lawfulness, but rather in the variability of outcomes they produce as a result of changing conditions (Mayntz, 2004: 240). Accordingly, he explains, in very simple or closed systems, where conditions are stable and interaction with other factors is limited or otherwise predictable, mechanisms should always produce the same outcomes. Even Elster, who is otherwise pessimistic about the possibility of finding laws in social sciences, suggests that if the conditions triggering a mechanism are identified, their functioning may be transformed into a law of some generality (Elster, 1999: 36–44; Elster, 2007: 44).

Are Programmatic Claims Necessary?

Having argued in the past two sections that programmatic issues have deeply influenced the scope and focus of claims about mechanisms and mechanistic explanations in sociology, a valid objection might be raised. How can a mechanistic agenda in sociology be put into practice if not by making use of particular theories or methods? Put differently, why should sociologist be

wary about programmatic preferences and not see them instead as valid and constructive attempts to give form to a mechanistic agenda in the discipline?

It is certainly true that the notion of mechanisms and mechanistic explanations in sociology cannot do without further substantive assumptions about the nature of the social world, nor can it be possible to articulate this in a coherent and productive manner without making decisions on theory and method. If generative causality is to be taken seriously, then, at a minimum, a social ontology that spells out which elements of the social world are regarded as causally effective is needed. On top of that, providing causal explanations that further our understanding and reconstruct how causes produce effects inevitably requires choosing adequate theoretical and methodological tools.

Having said that, and even if ontological assumptions as well as theoretical and methodological choices are admittedly essential prerequisites to give the metaphor of mechanisms substance, this does not justify reducing the discussion on social mechanisms to *unique* ontologies, theories, and methods. This tension between the need for positive statements about the social world and about methodology on the one hand, and the impetus to further individual agendas on the other is captured by the following statement by Peter Hedström:

> *'Although the idea of mechanism-based explanation helps social scientists to avoid some philosophical pitfalls, the mere adoption of mechanism talk will not suffice. Much depends on how mechanism ideas are put to use; otherwise we end up with mere mechanism-based storytelling that lacks both theoretical rigor and empirical relevance. A broader vision of sociology is needed, which the so-called analytical sociology movement has attempted to articulate'* (Hedström and Ylikoski, 2010: 58).

So even if some programmatic bias in the discussion on mechanisms toward particular views on sociology is necessary, sociologists should be careful not to confuse general claims about mechanisms with particular ontological, theoretical, and methodological agendas put forward by individual scholars.

Concluding Remarks

This paper offered a critical reflection on the way the debate on mechanisms and mechanistic explanations in sociology has unfolded over the last two decades. It was argued that the tendency of some scholars to emphasize their own individual theoretical and methodological preferences when using the concept has introduced more noise than clarity into the debate. It seems as if the discussion on social mechanisms has turned into an arena to fight multiple theoretical and methodological battles that evidently go beyond the initial intuitions implied by the mechanistic approach regarding causation and understanding through causal explanation.

In view of this state of affairs, it is difficult to disagree with Norkus (2005: 351) when he argues that the discussion on social mechanisms merely reproduces old debates in the social sciences through a mere restatement of known theoretical and methodological oppositions in the form of a new 'mechanistic talk'. Accordingly, the task of defining social mechanisms has been reduced to familiar antagonisms and perennial controversies regarding individualism and holism, reductionism and emerging phenomena, rational choice and non-rational choice theories of actions, quantitative and qualitative methods. All of these are major topics that have been present in one way or another since the beginnings of the discipline and have now been reformulated under a new mechanistic language.

The emphasis on individual predilections in theory and method when making use of the concept of social mechanisms explain why the discussion seems to have been more effective, at least up to now, in bringing forth particular agendas in the discipline (e.g., analytical sociology) than in fostering a more broadly based debate on causation and causal explanation in sociology. This programmatic bias of the discussion has a clear downside. It raises skepticism among sociologists about the pertinence of a mechanistic approach and its alleged novelty. Thus, while some appear to be more concerned with particular agendas, the skeptical are growing wary about the very notion of mechanisms and mechanistic explanations.

Where to go from here? In the light of the foregoing remarks, two positions can be defended. First, an 'opportunistic' or 'cynical' position can be taken that reduces the concept of mechanism to a transient metaphor to be used instrumentally for higher programmatic goals. This, of course, would disappoint the gullible sociologist who had taken the social mechanism discussion at face value without being fully aware of its programmatic aspects. The skeptical, however, will be satisfied, for an opportunistic or cynical position justifies their skepticism.

Second, and in contrast to this instrumental, programmatic view, a 'purist' position might be taken that judges the mechanistic perspective in its own right, not as an accessory metaphor to any particular program in sociology but as an ongoing debate on causation and causal explanation despite methodological and theoretical differences. Only if attention is directed away from programmatic struggles and focused on the core principles of generative causality and a commitment to understanding through causal explanation can a broad-based discussion on social mechanisms and mechanistic explanations be fruitfully pursued. This, again, would disappoint the gullible who think they can do without the philosophy. It might, in fact, also

disappoint the skeptical who had already given up the efforts to understand a mechanistic approach to sociology, rejecting it as vacuous ‘mechanistic talk’.

Admittedly, the first alternative is the less costly. It protects the status quo for both the advocates and the skeptics of social mechanisms. By contrast, the second alternative might force sociologists at both ends of the spectrum to reconsider their positions. It implies diving squarely into philosophical questions and hence requires sociologists to invest time and effort in developing informed opinions on the philosophy of causation and explanation. If they fail to do so, they will very likely end up divesting the concept of its substance and the discussion on mechanisms and mechanistic explanations of its entire purpose. Among those ‘purists’ who decide to look into the philosophy of causation and causal explanation, some might decide not to support a mechanistic agenda while others who do support it will eventually have to choose a particular social ontology, theory, and method to put it into practice. However, and irrespective of these choices, probably only a purist position will allow for understanding and debate of the essence of a mechanistic approach, free from individual theoretical and methodological biases. And only then will gullibility or skepticism be warranted.

Notes

1. The distinction between ‘mechanism’ and ‘mechanistic explanation’ can best be understood as a division between metaphysical and epistemological issues. The word ‘mechanism’ is usually reserved for ontological statements: mechanisms are; they exist and are constitutive of real phenomena. On the other hand, ‘mechanistic explanation’ refers to representations and abstractions of reality in the form of models or propositions that can be described as mechanistic either because they are in fact models of ontologically existing mechanisms, or simply because they rely on a form of mechanism-based thinking that is used to abstractly represent phenomena. Attempting to distinguish ontological from epistemological claims might prove helpful in avoiding misunderstandings, even if these two types of claims are ultimately very difficult to separate entirely.
2. A comprehensive collection of articles surveying the most relevant conceptions of causation in philosophy, including Hume’s regularity theory, can be found in Beebee et al. (2009).
3. For a review of the agenda of analytical sociology, see Manzo (2010).
4. For critical responses to the advocates of social mechanisms, see Abbott (2007), Norkus (2005), Opp (2007), Reiss (2007), and Steel (2004, 2007).
5. Both Elster and Hedström have been very active in publishing their views on mechanisms and mechanistic explanations. In the case of Elster, five books contain most of his thoughts on the subject (Elster, 1983, 1990, 1998, 1999, 2007). His early notions on mechanisms, found in Elster (1983), were modified in Elster (1990) and worked out in more detail in Elster (1998), Elster (1999), and Elster (2007). As to Hedström, his early views on social mechanisms can be found in Hedström and Swedberg (1996) and in his perhaps most quoted article of 1998, included as an introduction to the collection of essays on social mechanisms published in conjunction with other advocates of the mechanistic approach, including Raymond Boudon, Arthur Stichcombe, and Jon Elster (Hedström and Swedberg, 1998a). Besides these two early articles, Hedström’s ideas on mechanisms are most comprehensively developed in his book on analytical sociology (Hedström, 2005). Similar arguments are also found in the Oxford Handbook of Political Methodology (Hedström, 2008) and in more depth in two articles in The Oxford Handbook of Analytical Sociology, coedited with Peter Bearman (Hedström and Bearman, 2009a; Hedström and Udehn, 2009). His latest publication on the subject is a coauthored review article that summarizes both the philosophical and sociological debates on mechanisms and mechanistic explanations (Hedström and Ylikoski, 2010).
6. For a glimpse into the philosophical discussion on mechanisms and causal inference, see Steel (2004, 2007) and Weber (2007).

7. Of these three goals, the first two echo ideas extensively debated in the philosophy of science, and are, therefore, not confined to the social sciences. The third, by contrast, is mostly an intradisciplinary enterprise of analytical sociology (Manzo 2010).
8. Whether this reconceptualization of Machamer's definition is adequate should be left open for discussion. Although Machamer et al. do not preclude the possibility of extending their definition of mechanisms to the social sciences (Machamer et al., 2000: 2), 'entity' and 'activity' need not necessarily be translated into actors and actions. It is also not clear in Hedström's writings why other competing definitions of mechanisms found in the natural sciences and philosophy were ignored in choosing Machamer's formulation. For example, why not define mechanisms using alternative categories like 'parts', 'operations', and 'organization' (Bechtel and Abrahamsen, 2005: 423), 'complex system' (Glennan, 1996: 53; 2002: 344) or 'process in a system' (Bunge, 2004: 186)?
9. Still other theoretical and methodological oppositions in the mechanism debate in the social sciences are discussed in Gerring (2007).
10. A mechanistic or mechanism-based explanation is nothing more than an explanation with the description of the functioning of a mechanism as explanans and the outcome of a mechanism as explanandum.
11. In fact, Merton's idea of middle-range theories is not a criticism of grand theories per se, but rather of premature attempts at producing them without having established the required empirical and theoretical foundations (Merton, [1949] 1965). It is for the purpose of this preparatory work that he envisions middle-range theories, arguing for 'a developmental orientation' to theorizing (p. 50) and making a plea to 'look [...] toward progressively comprehensive sociological theory which [...] gradually consolidates theories of the middle range, so that these become special cases of more general formulations' (p. 51). To fulfill this task, middle-range theories must ultimately be compatible with different general theories (p. 43). Hence Merton is not simply advocating a search for special theories of middle range as a way to avoid the formulation of more comprehensive, general theories; rather, he is making a case for the articulation of grand theories based on middle-range theories, a bottom-up strategy to arrive at general theories.
12. Laws are here loosely defined as 'generalizations of wide scope that apply to many different kinds of systems and [...] have few or no (or at least a very limited set of) exceptions' (Woodward, 2002: 368).
13. It is true that, in principle, a mechanism can be decomposed into ever deeper mechanisms in such a way that its regular functioning is due to the regular functioning of some other, lower-level mechanism. This, however, leads ultimately to an infinite regress. In sociology, Hedström has

advocated ‘stopping rules’ of disciplinary relevance to overcome this difficulty and to avoid an infinite regress. Not surprisingly, given his methodological individualism, individuals and their actions are the bottom line of decomposition (Hedström, 2005: 19, 25–26).

14. In later publications, Glennan abandoned the concept of law to describe the internal functioning of mechanisms and replaced it with Woodward’s idea of ‘direct, invariant, change relating generalizations’ (Glennan, 2002: 344).

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